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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,019	09/12/2003	Feng Chen	TI-35765 (032350.B523)	6817
23494	7590	05/05/2005	EXAMINER	
TEXAS INSTRUMENTS INCORPORATED P O BOX 655474, M/S 3999 DALLAS, TX 75265			JEAN PIERRE, PEGUY	
			ART UNIT	PAPER NUMBER
			2819	
DATE MAILED: 05/05/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/661,019

Applicant(s)

CHEN, FENG

Examiner

Peguy JeanPierre

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-18 and 20 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 7, 8 and 19 is/are rejected.
- 7) ☐ Claim(s) 3-6 and 9-12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2, 7-8, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Connell et al. (USP 5,940,447) or Khoury et al. (USP 6,121,910).

Connell et al. disclose in Figure 1, a method for digitizing a signal that comprises a sample and hold circuit (36) that samples an analog input signal having a particular frequency, a filter (38) that filters the sampled signal, a quantizer/comparator (40) that quantizes the filtered signal to generate the digital signal representing the information that is contained in the analog input signal. The filter is a passive bandpass or highpass filter circuit (see col. 3, lines 31-32) that comprises at least one passive element such as a switched capacitor circuit (see col. 4 lines 1-2).

Khoury et al. disclose in Figure 1, a sigma delta modulator to digitize an analog input signal having an intermediate frequency signal ( $f_{in}$ ). The converter comprises a filter (104) that can be implemented as a bandpass or highpass filter (see col. 4, lines 48-53), a quantizer (108) that can be implemented as a comparator or ADC converter (see col. 4, lines 65-67).

### ***Allowable Subject Matter***

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3. Claims 3-6 and 9-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
4. Claims 13-18 and 20 allowed.

***Response to Arguments***

5. Applicant's arguments filed on 3/09/2005 have been fully considered but they are not persuasive.

Applicant argues that claim 1 recites the step of "...sampling an analog signal..." Applicant further argues that the signal in the Connell reference is not apparently an analog signal. The Examiner shifts the burden to Applicant to prove that the signal is not "ANALOG". The sample and hold circuit, illustrated in Figure 2, is coupled to analog input signal (IN+, IN-). In addition, it is to be noted that block 34 of Figure 1 is designed to process analog signal.

Applicant also argues that "there is no statement in Connell that the circuit is passive." Well it is well known that passive filters are built from passive component and hence the filter of Connell is passive since it is implemented with passive components such as capacitors. The burden is again shifted to Applicant to prove the filter of Connell is an active filter.

In addition, Applicant contends that the bandpass filter is part of the sampling circuit. The Examiner agrees. Though the filter is part of the sampling network it does not change the fact that the signal is sampled and then filtered (see also claim 1 or cited reference).

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As set forth in the rejection, the sampled output signal is inputted into a bandpass filter. Inherently, the output of the filter is a filtered signal; in addition, because the filter is a bandpass filter it is inherent that it provides a bandpass response. The Connell reference describes a filter formed of switched capacitor circuit that is known in the art as passive element circuit. See rejection. In addition, a comparator is regarded as a quantizer because both circuit elements can be implemented to convert analog signal to digital data. In fact, the specification describes the quantizer (16) as a high speed comparator.

### ***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art made of record and not relied upon is considered

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pertinent to applicant's disclosure. Chen et al. IEEE journal of Solid State Circuits (Vol. 32, NO 6, June 1997.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peguy JeanPierre whose telephone number is (571) 272-1803/272-1803. The examiner fax phone number is (571) 273-1803.

  
Peguy JeanPierre  
Primary Examiner